AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method of controlling the stress caused when forming a multilayer structure comprising:

providing a first material;

inducing stress by patterning said first material with an instrument to cause some amount of atomic level rearranging in said first material such that said first material exhibits ~~configuring at least a portion of said first material to exhibit~~ a first stress profile without changing the composition of said first material;

forming a second material over and in contact with said first material, a second stress profile being defined therebetween such that a net stress profile results between said first and second materials that is a function of said first and second stress profiles, wherein said first stress profile is configured in a specific manner so as to achieve a desired net stress profile.

2. (Original) The method according to claim 1, wherein said first stress profile is configured in a specific manner to achieve a predetermined net stress that is approximately zero.

3. (Original) The method according to claim 1, wherein said first stress profile is configured so as to be generally equal in magnitude, but opposite of the second stress profile such that said net stress profile is substantially zero.

4. (Original) The method according to claim 1, wherein said first and second materials are dissimilar.

5. (Cancel)

6. (Currently Amended) The method according to claim 1~~5~~, wherein said instrument is selected from the group consisting of a laser, an atomic force microscope tip, a sharp tip and an electron

beam.

7. (Currently Amended) The method according to claim 15, wherein said instrument causes said atomic level rearranging in said first material such that said first material exhibits said first stress profile using a high energy density that ablates material locally.

8. (Currently Amended) The method according to claim 15, wherein said instrument induces said stresses using local melting and re-solidification.

9. (Currently Amended) The method according to claim 15, wherein said instrument uses shock waves to induce said first stress.

10. (Currently Amended) The method according to claim 15, wherein said instrument comprises a laser and said first stress profile is controlled by adjusting at least one of power, wavelength, and pulse frequency of said instrument.

11. (Currently Amended) The method according to claim 15, where said instrument configures said first stress profile by creating at least one of voids, grooves and trenches on said surface of said first material.

12. (Original) The method according to claim 1, wherein said first material comprises at least one of a polymer and a ceramic.

13. (Original) The method according to claim 1, wherein said first material comprises a metal.

14. (Original) The method according to claim 1, wherein said first stress profile is configured to exhibit a depth that is controlled to cancel mismatched stresses over a predetermined thickness.

15. (Currently Amended) The method according to claim 1, wherein said first stress profile

comprises controlled stress patterns having predetermined shapes arranged to achieve said desired net stress profile.

16. (Currently Amended) A method of controlling the stress caused when forming a multilayer structure comprising:

providing a first material defining a substrate;

inducing stress by patterning said first material with an instrument to cause some amount of atomic level rearranging in said first material ~~using an instrument~~ to provide a first region of stress in said first material having first stress characteristics without changing the composition of said first material; and

depositing a layer of a second material over said first material such that said first region has a net stress having net stress characteristics different from said first stress characteristics.

17. (Original) The method according to claim 16, wherein said instrument is selected from the group consisting of a laser, an atomic force microscope tip, a sharp tip and an electron beam.

18. (Original) The method according to claim 16, wherein said instrument comprises a laser and said first region of stress is configured by adjusting at least one of power, wavelength, and pulse frequency of said instrument.

19. (Original) The method according to claim 16, wherein said net stress characteristics comprises a magnitude of stress that is substantially zero.

20. (Original) The method according to claim 16, wherein:

a second stress having second stress characteristics is provided upon depositing said second material over said first material;

said net stress is a function of said first and second stresses; and

said first stress is selected such that said net stress is set to a predetermined stress having

predetermined stress characteristics.

21. (Currently Amended) A method of controlling the stress caused when forming a multilayer structure comprising:

providing a substrate material;

inducing stress by patterning said substrate material with an instrument to cause some amount of atomic level rearranging in said substrate material ~~using an instrument~~ to configure a first stress profile in a region of stress on said substrate material without changing the composition of said substrate material, wherein said region of stress is defined by controlled stress patterns having predetermined shapes; and

depositing a second material over said substrate material, where a second stress profile is defined between said substrate and said second material; wherein a net stress profile results as a function of said first and second stresses, said net stress profile having predetermined net stress characteristics adjusted by said controlled stress patterns.

22. (Original) The method according to claim 21, wherein said first stress profile is defined by at least one of a compressive and a tensile stresses.

23. (Original) The method according to claim 21, wherein said net stress comprises at least one of compressive, tensile and sheer stresses.